P/1071-1543

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of

Masanobu Okada

Serial No.:

Filed:

Date: January 8, 2002

Group Art Unit:

Examiner:

For: SHIELDING CASE AND ELECTRONIC DEVICE HAVING THE SAME

Asst. Commissioner for Patents
Washington, D.C. 20231

PRELIMINARY AMENDMENT/SUBMISSION

Preliminary to the Examination of the application submitted herewith, please make of record the following. Reconsideration of the application is respectfully requested.

FEE CALCULATION

Any additional fee required has been calculated as follows:

_____ If checked, "Small Entity" status is claimed.

NO. CLAIMS AFTER AMENDMENT		HIGHEST NO. PREVIOUSLY PAID FOR		EXTRA PRESENT		RATE	ADDIT. FEE
TOTAL	14	MINUS 20	* =	0	X	($9 SE or $18)	$
INDEP.	3	MINUS 3	** =	0	X	($42 SE or $84)	$
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM					X	($140 SE or $280)	$
* not less than 20 ** not less than 3						TOTAL	$ -0-

If any additional payment is required, a check which includes the calculated fee of $____ (OFGS Check No. _____) is attached.

In the event the actual fee is greater than the payment submitted or is inadvertently not enclosed or if any additional fee during the prosecution of this application is not paid, the Patent Office is authorized to charge the underpayment to Deposit Account No. 15-0700.

CONTINGENT EXTENSION REQUEST

If this communication is filed after the shortened statutory time period had elapsed and no separate Petition is enclosed, the Commissioner of Patents and Trademarks is petitioned, under 37 C.F.R. § 1.136(a), to extend the time for filing a response to the outstanding Office Action by the number of months which will avoid abandonment under 37 C.F.R. § 1.135. The fee under 37 C.F.R. § 1.17 should be charged to our Deposit Account No. 15-0700.

AMENDMENTS

_√_ If checked, amendment(s) to the specification and/or claims are submitted herewith.

Specification:

Please make the insertion at page 1, after line 1; please delete the paragraphs beginning at page 2, line 9; page 2, line 22 and replace such paragraphs pursuant to 37 C.F.R. §1.121(b)(ii) with the "clean" version attached hereto as Appendix A. Entry is requested. A version with markings to show the changes made pursuant to 37 C.F.R. §1.121(b)(iii) is attached hereto as Appendix B.

Claims:

Please cancel claims 1-5 without prejudice.

Please add new claims 6-19 pursuant to 37 C.F.R. § 1.121(c)(i) as set forth in the "clean" version attached hereto as Appendix A. Entry is respectfully requested. A version with markings to show the changes made pursuant to 37 C.F.R. § 1.121(c)(ii) is attached hereto as Appendix B.

___ If checked, the optional complete set of "clean" claims pursuant to 37 C.F.R. § 1.121(c)(3) is attached hereto as Appendix C.

REMARKS/ARGUMENT

Minor revisions are being made to clarify page 2. The apparatus claims are being cancelled and replaced with a set of method claims 6-19.

EXPRESS MAIL CERTIFICATE

I hereby certify that this correspondence is being deposited with the United States Postal Service as Express Mail to Addressee (mail label # EL924390101US) in an envelope addressed to: U.S. Patent and Trademark Office, P.O. Box 2327, Arlington, VA 22202, on January 8, 2002

Dorothy Jenkins
Name of Person Mailing Correspondence

Signature

January 8, 2002
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Respectfully submitted,

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APPENDIX A

"CLEAN" VERSION OF EACH PARAGRAPH/SECTION/CLAIM

37 C.F.R. § 1.121(b)(ii) AND (c)(i)

SPECIFICATION:

Insertion at page 1, after line 1:

Cross-Reference to Related Applications:

This is a division of U.S. Patent Application Serial No. 09/627,021, filed July 27, 2000 in the name of Masanobu Okada and entitled SHIELDING CASE AND ELECTRONIC DEVICE HAVING SAME, now abandoned.

Replacement for paragraph at page 2, line 9:

After the shielding case 1 is mounted, there are cases where quality-control testing is performed to determine whether circuits on the circuit substrate 4 properly operate according to design specifications. As a result of the testing, if a circuit mounted on the circuit substrate 4 is not working sufficiently because of a defect found in an electronic component electromagnetically shielded in the shielding case 1, a component-replacement process or some other correction operation (which is referred to as reworking in the following) is performed. The reworking is performed such that the shielding case 1 is removed, and the defective electronic component is replaced with a new suitable component.

Replacement for paragraph at page 2, line 22:

In the reworking, the shielding case 1 is removed in the following steps. First, all solder joints fixing the leg sections 3 of the shielding case 1 are simultaneously heated and are melted. Then, in the state where all the solder joints are melted, the cover section 2 is lifted in the direction in which the cover section 2 will be separated from the circuit substrate 4. In this state, the individual leg sections 3 are pulled out through the through-holes 6 provided on the circuit substrate 4. In this way, the shielding case 1 can be removed form the circuit substrate 4.

CLAIMS (with indication of amended or new):

6. (NEW) A method of removing an electromagnetic shielding case from a circuit substrate, said shielding case comprising a cover section for covering electronic components mounted on said circuit substrate; a plurality of leg sections for attaching said cover section to said circuit substrate, each of said leg sections protruding from said cover section toward said substrate and being inserted in through-holes provided in said substrate; and a plurality of tool-insertion openings provided in said cover section, said tool-insertion openings corresponding to respective ones of said leg sections;

said method comprising the steps of:

for each of said leg sections, inserting a cutting tool into a corresponding said tool-insertion opening, and cutting the corresponding leg section away from said cover section with said cutting tool; and

after all of leg sections have been cut away, removing the cover section.

7. (NEW) The method of claim 6, further comprising the step of removing the cut-away leg sections from the circuit substrate.

8. (NEW) The method of claim 7, wherein said leg sections are soldered to the circuit substrate, further comprising the step of melting the solder fixing the leg sections to the circuit substrate and thereby removing the leg portions from the circuit substrate.

9. (NEW) The method of claim 6, wherein each of said leg sections has a corresponding pair of said tool-inserting openings, and said cutting step comprises the step of using said cutting tool to cut from one to the other of said pair of openings.

10. (NEW) A method of removing an electromagnetic shielding case from a circuit substrate, said shielding case comprising a cover section for covering electronic components mounted on said circuit substrate; a plurality of leg sections for attaching said cover section to said circuit substrate, each of said leg sections protruding from said cover section toward said

substrate and being inserted in through-holes provided in said substrate; said method comprising the steps of:

proving a plurality of tool-insertion openings in said cover section, said tool-insertion openings corresponding to respective ones of said leg sections;

for each of said leg sections, inserting a cutting tool into a corresponding said tool-inserting opening, and cutting the corresponding leg section away from said cover section with said cutting tool; and

after all of leg sections have been cut away, removing the cover section.

11. (NEW) The method of claim 10, further comprising the step of removing the cut away leg sections from the circuit substrate.

12. (NEW) The method of claim 11, wherein said leg sections are soldered to the circuit substrate, further comprising the step of melting the solder fixing the leg sections to the circuit substrate and thereby removing the leg portions from the circuit substrate.

13. (NEW) The method of claim 10, wherein each of said leg sections is provided with a corresponding pair of said tool-inserting openings, and said cutting step comprises the step of using said cutting tool to cut from one to the other of said pair of openings.

14. (NEW) The method of claim 13, further comprising the step of providing a respective cutout from each of said tool-inserting openings to an edge of said cover section, said cutout partially defining the corresponding said leg portion.

15. (NEW) The method of claim 10, further comprising the step of providing a respective cutout from each of said tool-inserting openings to an edge of said cover section, said cutout partially defining the corresponding said leg portion.

16. (NEW) The method of making an electromagnetic shielding case removable from a circuit substrate, said shielding case comprising a cover section for covering electronic

components mounted on said circuit substrate; a plurality of leg sections for attaching said cover section to said circuit substrate, each of said leg sections protruding from said cover section toward said substrate and being inserted in through-holes provided in said substrate; said method comprising the steps of:

providing a plurality of tool-insertion openings in said cover section, said tool-insertion openings corresponding to respective ones of said leg sections;

whereby for each of said leg sections a cutting tool can be inserted into a corresponding said tool-insertion opening and utilized to cut the corresponding leg section away from said cover section, so as to permit all of said leg sections to be cut away and said cover section to be removed.

17. (NEW) The method of claim 16, wherein each of said leg sections is provided with a corresponding pair of said tool-inserting openings, whereby said cutting tool can be utilized to cut from one to the other of said pair of openings.

18. (NEW) The method of claim 17, further comprising the step of providing a respective cutout from each of said tool-inserting openings to an edge of said cover section, said cutout partially defining the corresponding said leg portion.

19. (NEW) The method of claim 16, further comprising the step of providing a respective cutout from each of said tool-inserting openings to an edge of said cover section, said cutout partially defining the corresponding said leg portion.

APPENDIX B
VERSION WITH MARKINGS TO SHOW CHANGES MADE
37 C.F.R. §1.121(b)(iii) and (c)(ii)

SPECIFICATION:

Paragraph at page 2, line 9:

After the shielding case 1 is mounted, there are cases where quality-control testing is performed to determine whether circuits on the circuit substrate 4 properly operate according to design specifications. As a result of the testing, if a circuit mounted on the circuit substrate 4 is not working sufficiently because of a defect found in an electronic component electromagnetically shielded in the shielding case 1, a component-replacement process or some other correction [operations] operation (which is referred to as reworking [as follows) are] in the following) is performed. The reworking is performed such that the shielding case 1 is removed, and the defective electronic component is replaced with a new suitable component.

Paragraph at page 2, line 22:

In the reworking, the shielding case 1 is removed in the following steps. First, all [solders] solder joints fixing the leg sections 3 of the shielding case 1 are simultaneously heated and are melted. Then, in the state where all the [solders] solder joints are melted, the cover section 2 is lifted in the direction in which the cover section 2 will be separated from the circuit substrate 4. In this state, the individual leg sections 3 are pulled out through the through-holes 6 provided on the circuit substrate 4. In this way, the shielding case 1 can be removed form the circuit substrate 4.